A rare case of spontaneous spinal epidural hematoma with spontaneous resolution

P M Suman Reddy¹, Jerry Jacob², Roger Shannon Dsouza³

From ¹PG Resident, ²Assistant Professor, ³Senior Resident, Department of Emergency Medicine, MS Ramaiah Medical College, Bengaluru, Karnataka, India

ABSTRACT

Spontaneous spinal epidural hematoma (SSEH) is a rare emergent clinical condition that causes spinal cord compression. It is a neurological emergency that requires urgent imaging and appropriate treatment to prevent permanent neurological sequelae. Here, we present the case of a 30-year-old male with no known comorbidities who presented to the emergency department with a history of sudden onset of upper backache and chest discomfort followed by bilateral lower limb weakness. On examination, the blood pressure was 220/120 mmHg, and neurological examination showed decreased tone and power of 2/5 in bilateral lower limbs. In view of the initial chest discomfort, a cardiac evaluation was done, which was normal, followed by magnetic resonance imaging of the whole spine, which showed a lesion in the anterior epidural space suggestive of hematoma, causing spinal cord compression. A final diagnosis was C6-T2 dorsal SSEH secondary to a hypertensive emergency.

Key words: Epidural, Hematoma, High blood pressure, Spinal cord

CASE REPORT

A 30-year-old male with no known comorbidities, working in front of a computer in his office, suddenly developed a sudden onset of upper back ache and chest discomfort. Following this, he was brought to the emergency department within 30 min, and then the patient developed bilateral lower limb weakness, which was sudden in onset and progressive in nature. There was no history of sudden cough, sneeze, or trauma.

On examination, the patient was conscious and oriented with a blood pressure of 220/120 mmHg, a pulse rate of 84 beats/min (regular, no pulse deficit), and a respiratory rate of 18/min. Neurological examination showed decreased tone and power of 2/5 in bilateral lower limbs. The sensory examination was normal. The Glasgow coma scale was 15/15. There was no bowel or bladder involvement. No history of trauma or coagulopathy was present.

The patient was treated with intravenous analgesics and antihypertensives. Neurological improvement was seen with the control of blood pressure, 4/5 power over 6 h and over 24 h, and
motor power 5/5 in both limbs. A repeat MRI of the spine was done after 3 days, which showed a T2 MRI isointense area with spontaneous resolution without surgery (Fig. 2). The patient had no neurological deficit at the 6-month follow-up.

DISCUSSION

SSEH is a rare cause of spinal cord and radicular compression, accounting for <1% of all spinal epidural space-occupying lesions [10]. Though any vertebral segments may be involved, the location is predominantly in the cervicothoracic and thoracolumbar dorsal areas [7,8]. SSEH is most often attributed to the spontaneous collection of blood in the spinal epidural space without any traumatic or iatrogenic cause [8]. However, this does not exclude pre-disposing factors such as coagulopathy, vascular malformation, antiplatelet or anticoagulant therapy, cavernous angioma, or tumor [11-16]. The epidural venous system is a low-pressure system without a valve, and any changes in pressure can lead to bleeding.

SSEH usually presents with a sudden onset of neck or back pain at the involved vertebral level, with radiating pain followed by rapidly progressive symptoms and signs of spinal cord compression [2,3]. However, early accurate diagnosis is a challenge, especially in cervical SSEH spontaneous cervical epidural hematoma (SCEH) [6]. Due to the varying rapidity of onset and severity of upper spinal cord and radicular compression, various symptoms in SCEH can mimic cerebral stroke, ruptured cervical disc, or cervical arterial dissection [10,17]. Therefore, MRI is critical for the diagnosis of SCEH and can reveal the location and extent of the hematoma and the severity of spinal cord compression and spinal cord edema.

The treatment of choice for SSHEs is typically surgical evacuation of the hematoma. But in our case, the patient improved neurologically once the blood pressure was improved. Therefore, in selected patients without or with only slight neurologic symptoms or showing early sustained neurologic improvement, non-surgical therapy with close observation and repeated MRI follow-up is a viable option that can achieve excellent neurologic outcomes. However, considering that most spontaneously resolved SSEH patients experienced neurologic improvement in the first 24 h, if neurologic improvement is not observed within the first 24 h in a patient with a severe neurologic deficit or if neurologic deterioration occurs and neurologic improvement stops at an unacceptable level, surgical intervention should be undertaken as soon as possible.

CONCLUSION

SSEH is a rare clinical emergency, needing prompt diagnosis and treatment. Atypical presentations can mimic a cerebral stroke or ruptured cervical disc, and an MRI examination is critical for diagnosis. For patients without or with only slight neurologic symptoms or showing early sustained neurologic improvement, non-surgical therapy with close observation and repeated MRI follow-up is a viable option that can achieve excellent neurologic outcomes.

REFERENCES

10. Carlos V, Alvaro S, Matias A. Pure cervical radiculopathy due to spontaneous


**Funding:** Nil; **Conflicts of interest:** Nil.

**How to cite this article:** Reddy PM, Jacob J, Dsouza RS. A rare case of spontaneous spinal epidural hematoma with spontaneous resolution. Indian J Case Reports. 2024; April 29 [Epub ahead of print].